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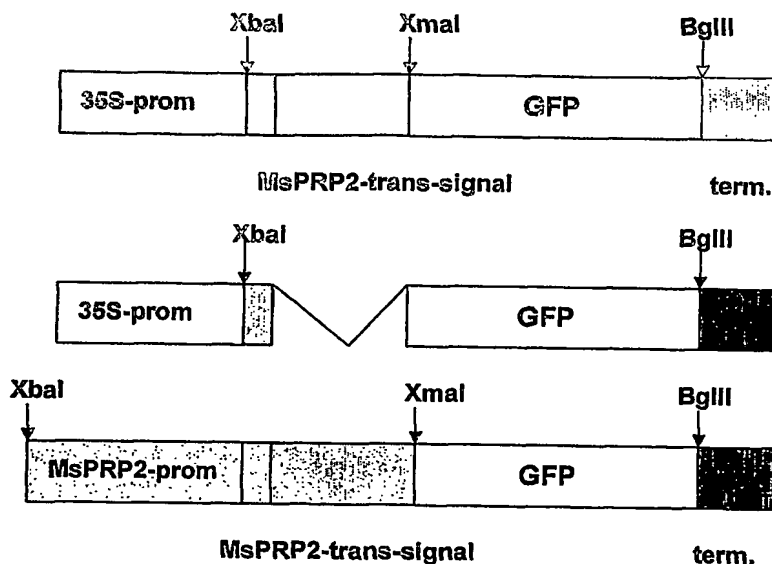
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(54) Title: EXPRESSION OF DESIRABLE PROTEINS IN PLANT ROOTS AND CELL CULTURES



(57) Abstract: A new expression cassette for directing heterologous protein expression in plant roots has at least two portions, nucleotides encoding MsPRP2 promoter or a fragment thereof, said promoter or fragment comprising a portion of SEQ ID NO: 1; and nucleotides comprising a gene for a heterologous protein, operably linked to the MsPRP2 nucleotides. An expression cassette capable of directing heterologous protein expression in plant roots, comprising a) nucleotides encoding a promoter of MsPRP 2 or a fragment thereof; b) optionally nucleotides encoding a ribosomal binding site; c) optionally nucleotides encoding a secretion signal; and d) nucleotides encoding a heterologous protein, said protein nucleotides being operably linked to the MsPRP2 promoter nucleotides. The expression cassette further includes nucleotides encoding

transcription factor Alfin1; the Alfin1 nucleotides are operably linked to another promoter such that the other promoter causes the transcription factor Alfin1 to be overexpressed. Also disclosed are plants and plant cells transfected with the preceding expression cassette. Also disclosed are methods for making plant cell-bound and secreted proteins. Seeds are made from transformed plant cells.

WO 2004/085619 A2